

REPORT

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Human erythrocytes were found to combine, apparently by adsorption, with specific bacterial polysaccharides. A suspension of about 20×10^8 cholera bacteria in H_2O was treated with 65 per cent NaOH and 0.5 per cent alcohol solution of rosolic acid; after brief

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boiling, the cooled solution was neutralized with AcOH , then made slightly alkaline with Na_2CO_3 ; this was used for the stock solution. Erythrocytes were isolated from defibrinated human blood (O1 group) and were at most 3 days old. Specific serums used were agglutinating serums of low titer of 3-year storage. To 20-cc volumes of a series of dilutions of the stock hapten solutions there were added 0.1-cc portions of the prepared erythrocytes, shaken for 5 minutes and let stand 0.5 hour; after centrifuging, the solutions were diluted with physiological solution and each dilution there was added 10 percent erythrocyte suspension, in order to establish the limiting concentration of the centrifuge in which a positive reaction occurs. The same principle was used for titration of hapten up to complete adsorption by erythrocytes. The lower the initial hapten concentration, the higher is its percent of adsorption by erythrocytes, i.e., a phenomenon which is readily explained by adsorption, with Freundlich's $1/n = 0.6$ and $1/50$. Because of this mechanism, the erythrocytes are capable of transferring the adsorbed hapten (the characteristic bacterial polysaccharide) to the medium or to other erythrocytes upon changes of concentration according to laws of adsorption.

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